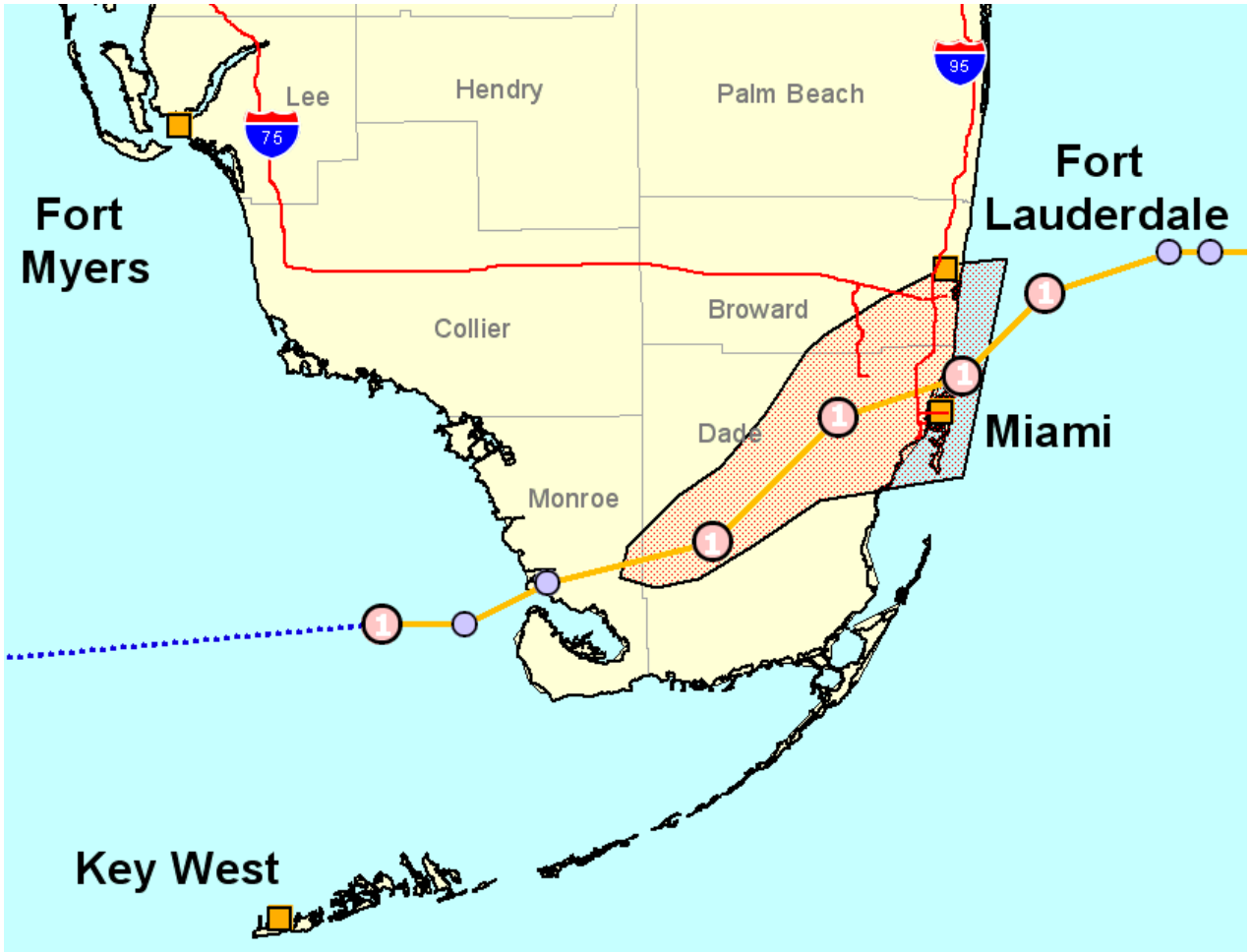
Hurricane Katrina Wind Distribution

Landfall Plus 12 Hours

For Official Use Only!



Most Probable Landfall Wind Distribution

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Wind Fields

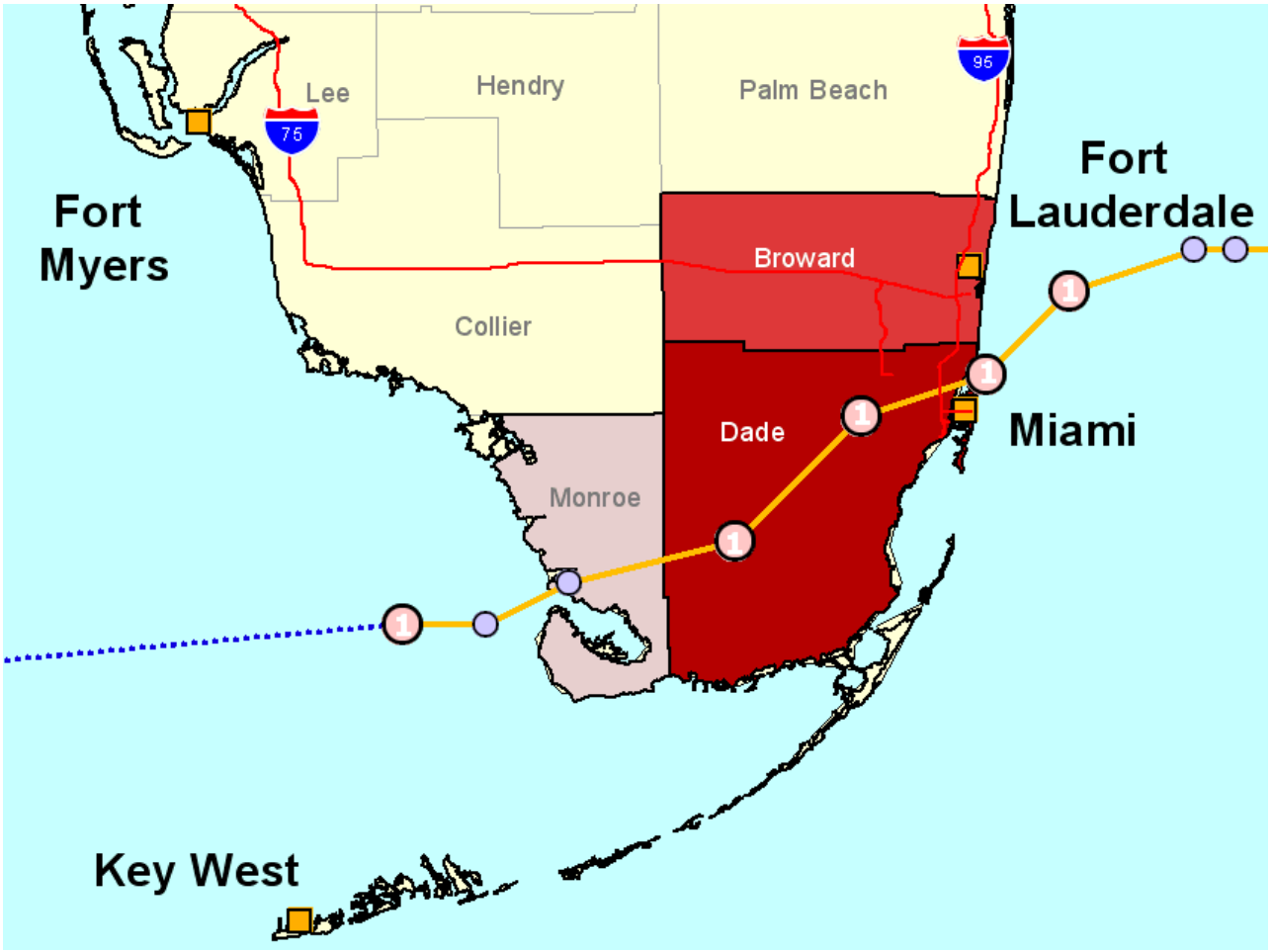
Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Debris Model

Landfall Plus **12** Hours

For Official Use Only!



Most Probable Landfall Debris Model Results

Florida – 3,025,000 yd^3

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Debris Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Debris Model

Landfall Plus **12** Hours

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STATE	COUNTY	YARDS
Florida		
	Broward	827,000
	Dade	2,197,000
	Monroe	1,000
TOTAL		3,025,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

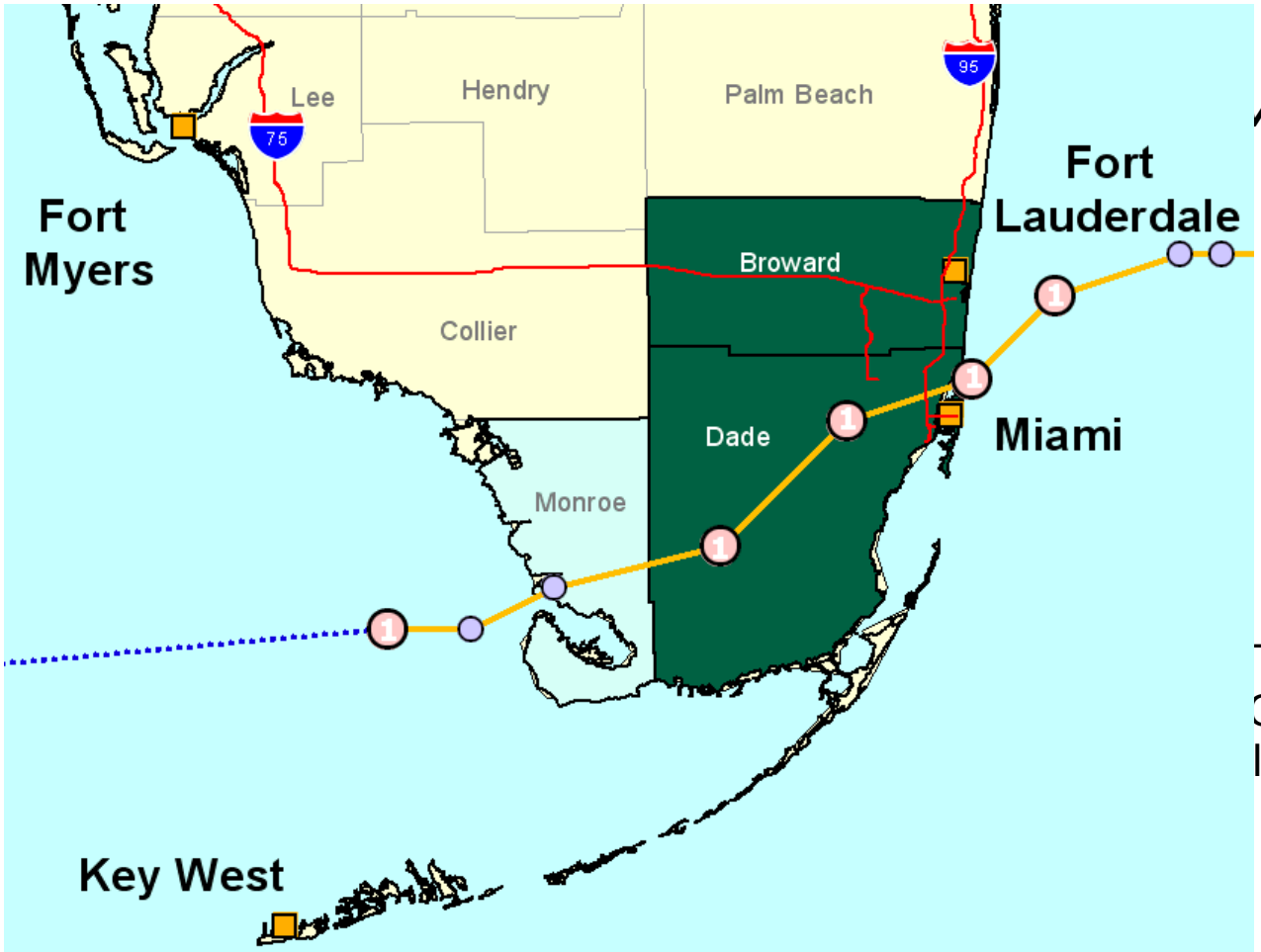
Hurricane Katrina Debris Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Ice Model

Landfall Plus 12 Hours



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Most Probable Landfall Ice Model Results

Florida –
50 Truckloads Day One
100 Truckloads Day Two
109 Truckloads Day Three

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers	**Hurricane Katrina Ice Model**
Generated By: Terry Siemsen, LRL 0730 EDT 08/26/2005	
Sources: HURREVAC LRL-DEBRIS	Page 4 of 18

Hurricane Katrina Ice Model

Landfall Plus **12** Hours

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	Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up (Number of Trucks Each Commodity and Lanes Anticipated - end of each day)					
				Commodity Trucks	Within Hurricane Force Winds	
	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Day 1-3 Total	Population	Households
NHC Track						
Dade	38	75	82	195	2,042,000	711,000
Broward	12	25	27	64	677,000	272,000
Monroe	0	0	0	0	1,000	> 1,000
Florida - Total	**50**	**100**	**109**	**259**	**2,720,000**	**984,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

** **Assumption for Katrina** - Assumption is that 20 percent of the resident population will require ice/water due to power outages in areas experiencing hurricane force winds

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 20% of the resident population affected by Katrina will have power outage in this area will cause a need for ice.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Ice Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Water Model

Landfall Plus **12** Hours

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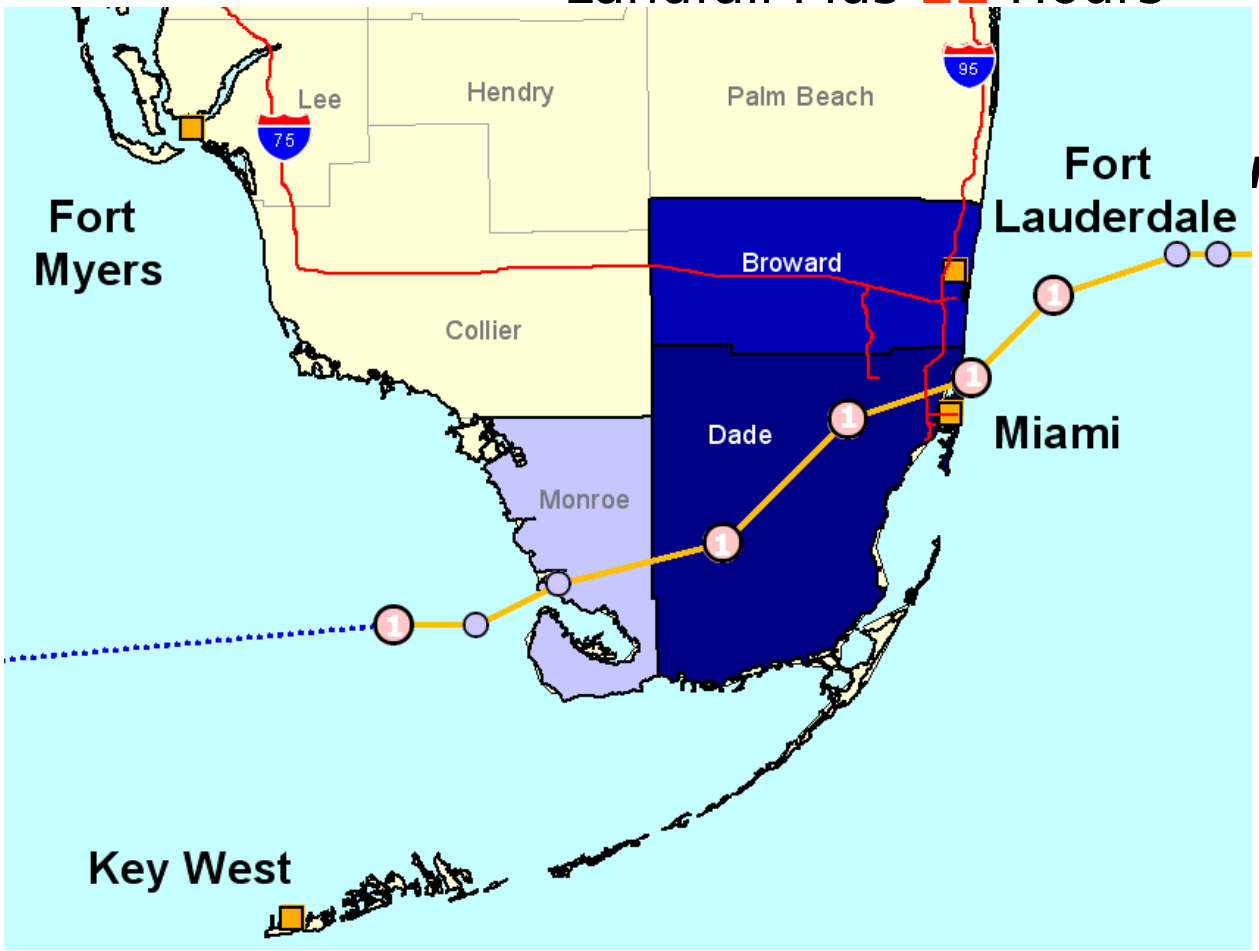


Most Probable Landfall Water Model Results

Florida –
50 Truckloads Day One
100 Truckloads Day Two
109 Truckloads Day Three

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Water Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Water Model

Landfall Plus **12** Hours

For Official Use Only!

Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up
(Number of Trucks Each Commodity and Lanes Anticipated - end of each day)

	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Commodity Trucks Day 1-3 Total	Within Hurricane Force Winds Population	Households
NHC Track						
Dade	38	75	82	195	2,042,000	711,000
Broward	12	25	27	64	677,000	272,000
Monroe	0	0	0	0	1,000	> 1,000
Florida - Total	**50**	**100**	**109**	**259**	**2,720,000**	**984,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

** **Assumption for Katrina** - Assumption is that 20 percent of the resident population will require ice/water due to power outages in areas experiencing hurricane force winds

The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 20% of the resident population affected by Katrina will have power outage in this area will cause a need for water.

Details about this model may be obtained at https://englink.usace.army.mil

or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Water Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Population Model

Landfall Plus 12 Hours

For Official Use Only!

Most Probable Landfall Population Model Results

Florida – 2,720,000 persons

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Population Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Population Model

Landfall Plus 12 Hours

For Official Use Only!

State	County	Population per County
Florida		
	Broward	677,000
	Dade	2,042,000
	Monroe	1,000
TOTAL		2,720,000

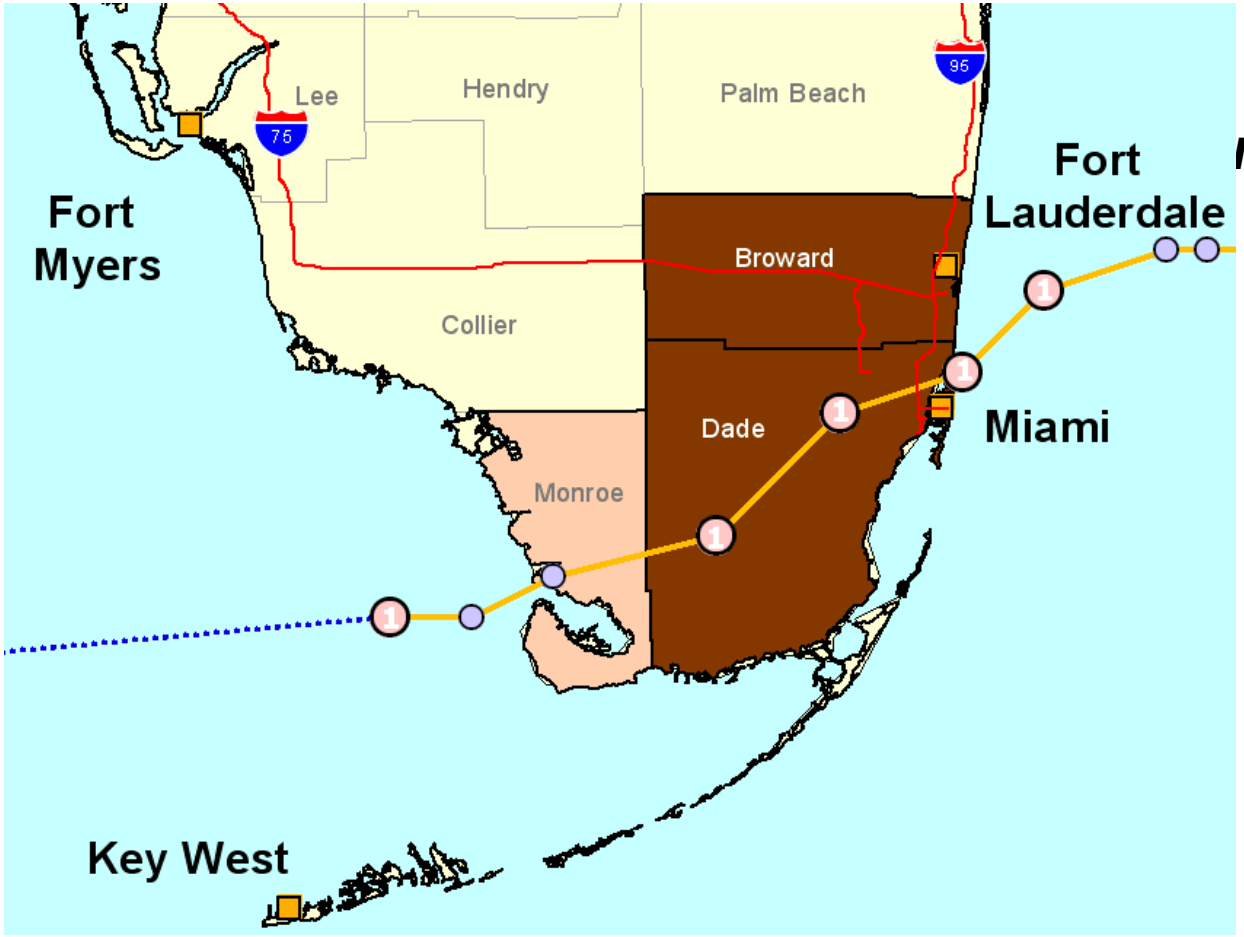
The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Katrina Households Model

Landfall Plus 12 Hours

For Official Use Only!



Most Probable Landfall Households Model Results

Florida – 984,000 households

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The number of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Households Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Households Model

Landfall Plus **12** Hours

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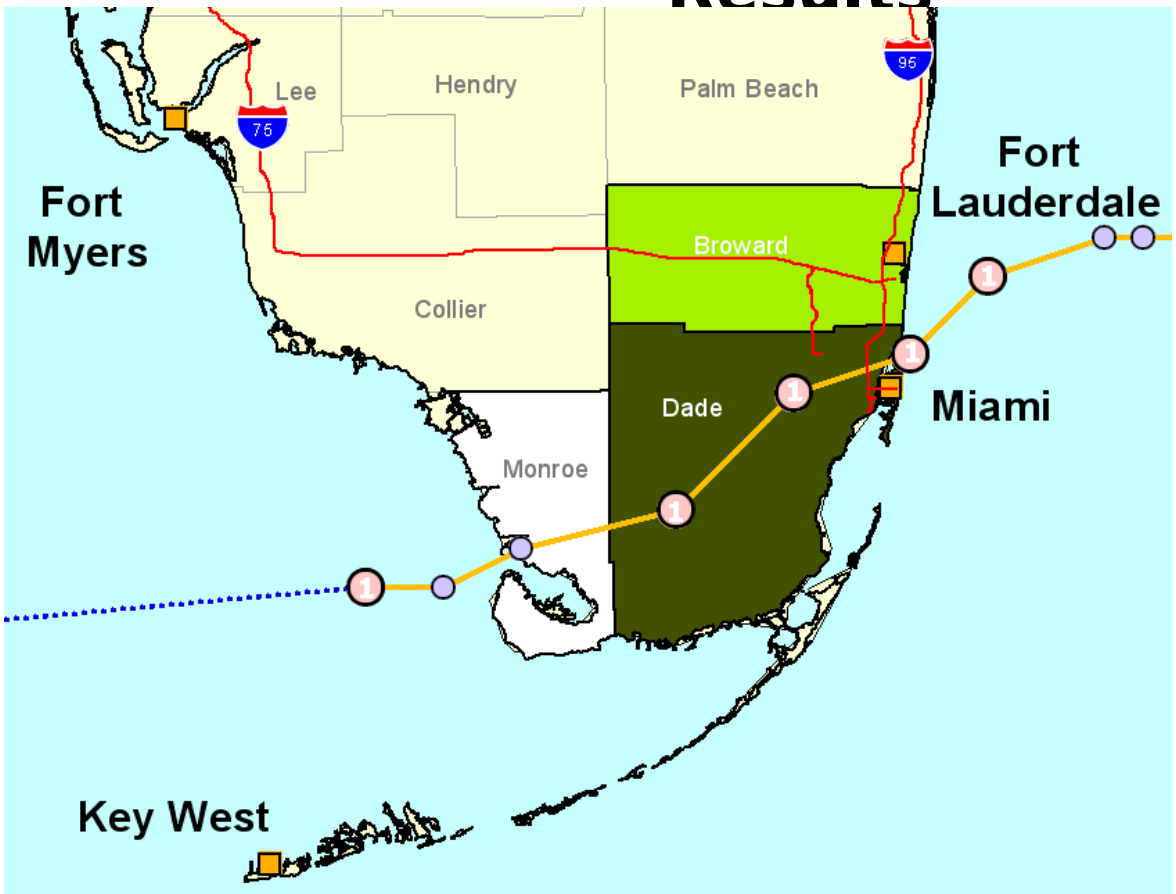
State	County	Households per County
Florida		
	Broward	272,000
	Dade	711,000
	Monroe	1,000
TOTAL		984,000

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Katrina Temporary Roofing Model Results

For Official Use Only!



Most Probable Landfall Temporary Roofing Model Results

Florida – 15,700

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The amount of temporary roofing that may be required is based on 2% of housing units damaged in CAT 1 wind area. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Roofing Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Roofing Model Results

Landfall Plus **12** Hours

For Official Use Only!

State	County	Houseunits per County
Florida		
	Broward	4,400
	Dade	11,200
	Monroe	100
TOTAL		15,700

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary roofing that may be required is based on 2% of housing units damaged in CAT 1 wind area. This only indicates possible need – not necessarily a mission to repair roofs.

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US Army Corps of Engineers

Hurricane Katrina Roofing Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Housing Model Results

Landfall Plus **12** Hours

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Most Probable Landfall Temporary Housing Model Results

Florida – 000

Model results per county on following page

There is no expected temporary housing need due to winds

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast. The amount of temporary housing that may be required is based on no housing need in CAT 1 wind area.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Housing Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Housing Model Results

Landfall Plus **12** Hours

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There is no expected temporary housing need due to winds

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

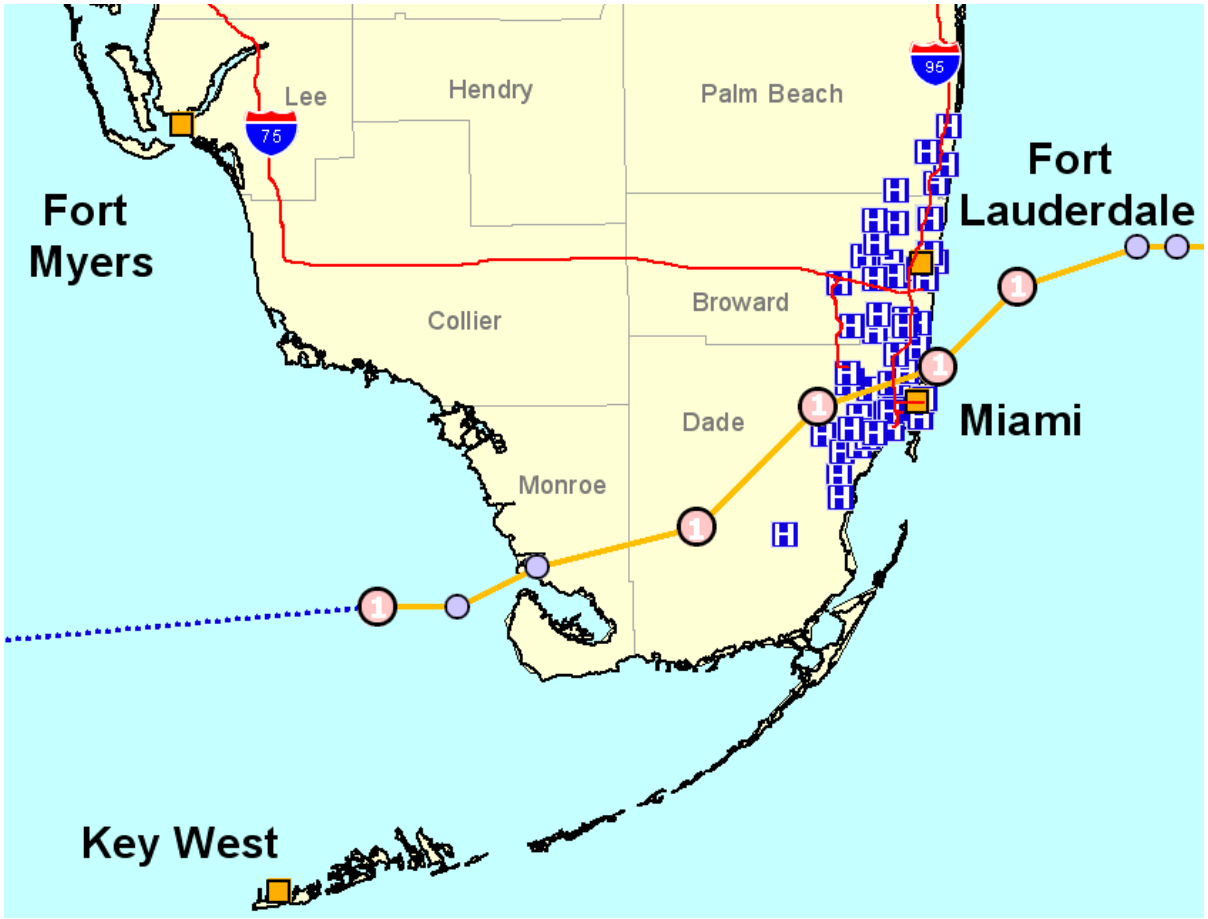
Hurricane Katrina Housing Model

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Hospitals

Landfall Plus 12 Hours



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Most Probable Landfall Hospitals inside Hurricane Force Winds or In Less Than 25 miles of Hurricane Force Winds

Critical Infrastructure – 62 Hospitals

This model is based on a Category 1 storm making landfall in near proximity to

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast.

The number of hospitals included in this output are those that would be included within estimated hurricane force winds (data source: HAZUS MH).

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers	**Hurricane Katrina Hospitals**
Generated By: Terry Siemsen, LRL 0730 EDT 08/26/2005	
Sources: HURREVAC LRL-DEBRIS	Page 16 of 18

Hurricane Katrina Police Stations

Landfall Plus 12 Hours

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Most Probable Landfall Police Stations inside Hurricane Force Winds or In Less Than 25 miles of Hurricane Force Winds

Critical Infrastructure – 129 Police Stations

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast.

The number of police stations included in this output are those that would be included within estimated hurricane force winds (data source: HAZUS MH).

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers	**Hurricane Katrina Police Stations**
Generated By: Terry Siemsen, LRL 0730 EDT 08/26/2005	
Sources: HURREVAC LRL-DEBRIS	Page 17 of 18

Hurricane Katrina Fire Stations

Landfall Plus 12 Hours

For Official Use Only!

Most Probable Landfall Fire Stations inside Hurricane Force Winds or In Less Than 25 miles of Hurricane Force Winds

Critical Infrastructure – 54 Fire Stations

This model is based on a Category 1 storm making landfall in near proximity to North Miami, FL.

Information provided on this page displays a Category 1 storm making landfall near North Miami, FL. These projections are based on information from the NHC ***(0500 EDT 08/26/2005)*** forecast.

The number of fire stations included in this output are those that would be included within estimated hurricane force winds (data source: HAZUS MH).

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US Army Corps of Engineers

Hurricane Katrina Fire Stations

Generated By:
Terry Siemsen, LRL 0730 EDT 08/26/2005

Sources:
HURREVAC
LRL-DEBRIS